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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,994	10/28/1999	ROBERT J. FRETZ	022577-579	5901

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DAVID G. BECK  
BINGHAM MCCUTCHEN LLP  
3 EMBARCADERO CENTER  
SUITE 1800  
SAN FRANCISCO, CA 94111

EXAMINER

DABNEY, PHYLESHA LARVINIA

ART UNIT	PAPER NUMBER
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2643

22

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/341,994

**Applicant(s)**

FRETZ ET AL

**Examiner**

Phylesha L Dabney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 17-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 13 and 20 is/are allowed.
- 6) ☐ Claim(s) 1-12, 14, 17-19 and 21-32 is/are rejected.
- 7) ☐ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This action is in response to the amendment filed on 15 December 2003 in which claims 1-14, 17-32 are pending.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-7, 9-12, 17-19, 21-25, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pluvinage et al (U.S. Patent No. 5,987,146), in view of the applicant's specification, and further in view of Ward (U.S. Patent No. 5,201,007).

Regarding claim 1, Pluvinage teaches a hearing aid system comprising a hearing aid case (40), a tube (10 or 10/30) having a first end and second ends (fig. 1) with a first and second bend (fig. 5, a-c), and an ear tip (12). Pluvinage does not teach the tube is sufficiently rigid such that a 1 inch segment of the tube is not deflected 0.1 inch by a force of 1 gram or less. The applicant's specification teaches that tubing made of silicone and the like would exhibit a durometer hardness of about 65 to 85 Shore D and be sufficient rigidity such that a 1 inch segment of the tube would be deflected by less than 0.1 inches by a force of 1 gram or less (page 9 line 24 to page 10 line 20). Ward teaches formulate tubing used in behind-the-ear hearing aids to direct sound into the ear canal from materials (col. 5 lines 13-16), such as PVC, silicon, etc., for prevent corrosive damage to the ear. Therefore, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to use silicone material to construct the tubing used in the Pluvinage invention, as taught by the applicant's specification and Ward, for providing stiffness while preventing corrosive damage to the ear.

Regarding claims 2-5, 9-10, and 12, see the rejection of claim 1.

Regarding claim 6, Pluvinage does not teach the hearing aid case including a battery having a mass of 1.5 grams or less. However, the Examiner takes official notice that it is notoriously well-known in the art for a BTE hearing aid to include a battery, i.e. Nicad or lithium or nickel-metal-hydride, having a mass of 1.5 grams or less for providing power without requiring a lot of space. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a battery as claimed for supplying power.

Regarding claim 7, Pluvinage teaches the case including a tube attachment end (30, 32) including: an end surface for abutting the first end of the tube (fig. 1), a nipple (30), a side surface for abutting a side surface of the tube (fig. 1), a key (32) extending along the side surface in a direction substantially parallel to the longitudinal axis of the nipple, the key arranged to maintain a proper orientation between the case and the tube when the tube is connected to the case.

Regarding claim 11, Pluvinage does not teach the tube being formed at high temperature to retain the first and second bend. However, the examiner takes official notice that it is known in chemical processing to heat plastic materials at high temperatures to make them malleable, and cool this plastic into rigid structure, such as the tube of Pluvinage, to promote proper fit and alignment. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the tube of Pluvinage at high temperature to make

it malleable and cool this tubing into a rigid structure to promote proper fit and alignment with the ear of the user.

Regarding claims 17-19, Pluvinage does not teach a kit of parts with a plurality of tubes, eartips, and hearing aid cases. However, the Examiner takes official notice that it is well-known in the art that individual's ears are not universal which requires different size hearing parts for fit and comfort of each individual. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for an audiologist during testing and fitting of hearing aid parts to different users to have multiple tubes, eartips, and cases for servicing different patients. In addition, Pluvinage does not teach the tube is sufficiently rigid such that a 1 inch segment of the tube is not deflected 0.1 inch by a force of 1 gram or less. The applicant's specification teaches that tubing made of SILICONE and the like would exhibit a durometer hardness of about 65 to 85 Shore D and be sufficient rigidity such that a 1 inch segment of the tube would be deflected by less than 0.1 inches by a force of 1 gram or less (page 9 line 24 to page 10 line 20). Ward teaches formulate tubing used in behind-the-ear hearing aids to direct sound into the ear canal from materials (col. 5 lines 13-16), such as PVC, silicon, etc., for prevent corrosive damage to the ear. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use silicone material to construct the tubing used in the Pluvinage invention, as taught by the applicant's specification and Ward, for providing stiffness while preventing corrosive damage to the ear.

Regarding claim 21, Pluvinage teaches a hearing aid device comprising an eartip (12) and a tube (10 or 10/30). Pluvinage does not teach the tube is sufficiently rigid such that a 1 inch segment of the tube is not deflected 0.1 inch by a force of 1 gram or less. The applicant's

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specification teaches that tubing made of PVC, silicon and the like would exhibit a durometer hardness of about 65 to 85 Shore D and have sufficient rigidity such that a 1 inch segment of the tube would be deflected by less than 0.1 inches by a force of 1 gram or less (page 9 line 24 to page 10 line 20). Ward teaches formulate tubing used in behind-the-ear hearing aids to direct sound into the ear canal from materials (col. 5 lines 13-16), such as PVC, silicon, etc., for prevent corrosive damage to the ear. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use SILICONE material to construct the tubing used in the Pluvinage invention, as taught by the applicant's specification and Ward, for providing stiffness while preventing corrosive damage to the ear.

Regarding claim 22, Pluvinage teaches the eartip (12) having a flower-shape with a plurality of petals (21).

Regarding claim 23, Pluvinage teaches the eartip (12) including a single blade (14) extending from a central core configured so that the blade fits behind the ear tragus (fig. 5b).

Regarding claim 24, Pluvinage teaches the eartip (12) having a conically-shaped member (12) having a first cross sectional dimensional smaller than the second cross sectional dimension (figs. 1, 5b, 4a-d).

Regarding claim 25, Pluvinage teaches an eartip (12) having a dome-shaped member (fig. 3) having an annular skirt (fig. 3).

Regarding claim 27, Pluvinage teaches the device comprising a behind the ear (BTE) hearing aid case (40) attached to the first end of the tube (10 or 10/30).

Regarding claim 28, Pluvinage teaches a portion (30) of the tube (10, 30) extends over the ear of the user.

Regarding claim 29, Pluinage teaches the eartip (12) including a wax guard (18a-b).

Regarding claims 30-32, Pluinage does not teach or restrict the construction of the eartip (12) or the tube for permitting optimal adjustment of these components (col. 5 lines 15-19). The examiner takes official notice that it is known to include grooves and ribs, such as male/female screw threads, respectively on these components as a means of removable attaching the eartip and tube together, thereby permitting adjustments. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use grooves and ribs in the invention of Pluinage to connect the eartip and tube for permitting adjustments.

2. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pluinage (U.S. Patent No. 5,987,146), in view of Harada (U.S. Patent No. 3,934,100).

Regarding claim 26, Pluinage does not teach the dome-shaped member eartip having vents. Harada teaches including vents in a dome-shaped member of an eartip for increasing or reducing the amplitude of sounds. Therefore, it would have been obvious to one of ordinary skill in the art to include vents in the dome-shaped member of the eartip of Pluinage, as taught by Harada, for reducing the amplitude of sounds.

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being unpatentable over Ely (U.S. Patent No. 3,749,853).

Regarding claim 14, Ely teaches a hearing aid case (figs. 1-9) comprising a case body (10) containing a microphone (14), a processor unit (15), and a speaker (16); a battery (inherently the compartment door below item 15); a nipple (20); wherein the nipple includes an

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annular retention ring and recess (20 end section) for retaining the hearing aid tube in a snap fit. Ely does not teach a tube attachment end including an end surface. However, the examiner takes official notice that it is known for resilient plastic tubing capable of being used in hearing aids to be conformed with a recessed section for retaining a ring, such as the ring of Ely for maintaining a tight fit. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a recessed tubing with the invention of Ely for the reasons stated above.

#### ***Response to Arguments***

4. Applicant's arguments with respect to claim 14 has been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments with respect to claims 1,12, 17, and 21, in which new limitations "tubes sufficiently rigid such that a 1 inch segment of the tube is not deflected 0.1 inch by a force of 1 g or less" have been added, have been considered but are moot in view of the amended ground(s) of rejection. In addition, the applicant states that if the tubing is composed of specific materials, such as PEBAX, silicone, polyurethane, PTFE, etc., then it will exhibit sufficient rigidity and deflection strength as compared to PVC (page 9 line 15 through page 10 line 20). Ward clearly teaches a tubing composed silicone, or similar material which supports the applicant's requirement (col. 5 lines 13-16). Therefore, the rejection is being maintained.

#### ***Allowable Subject Matter***



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6. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claims 13 and 20 are allowed.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

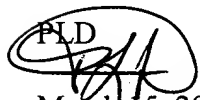
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L Dabney whose telephone number is 703-306-5415. The examiner can normally be reached on Mondays, Tuesdays, Wednesdays, Fridays 8:30-5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PLD  
  
March 15, 2004

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600